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Quite a different treatment shows the simple picture frame (gallery frame) subservient to the sole purpose of enclosing the object on all sides in an appropriate, homogeneous manner. Any symbolical or ornamental motives displayed in the frame are either radially or concentrically arranged round the picture. Upright and independent of any rythmical movement, are only those detached devices which do not detract from, and impair, the framed object, i. e., rosettes, medallions, heads at regular intervals, cornerpieces, &c. Carved leaves, eggs and tongues, or other conventional ornaments must be so directed as always to point to the centre. Decorative figures, animals and plants are to be employed with great precaution; they must be in upright position, and form at the same time a rythmical or running pattern round the framed object.

The specimens represented in our engravings are characteristic for the later period of Italian Renaissance,

and especially for Florence which is very rich in similar work.

**Plate 39.** — Tea-Kettle in Silver, designed by Prof. W. Wollanek in Vienna.

**Plate 40.** — Cover in Leather Mosaic, from the design of Ihne and Stegmüller, by Collin, Bookbinder in Berlin.

The ground is a deep blue-black, the lineal ornament red Russian leather, the flower ornament white shagreen; all the facing lines and contours are executed by hand gilding. The cover is mounted in a frame of gold and silver, chased and engraved, the initials stand out on a knob in dark blue enamel, the cartouche ornament round this knob is in gold, the laurel wreath in translucent enamel. The Cover is designed as gift of honor for a distinguished artist.

**Plate 41.** — Cabinets in Ebony with Marquetry in Ivory and Colored Woods, by Hunsinger and Wagner in Paris.

**Plate 42.** — Velvet Borders; Italian, 16th century work.

## VARIOUS.

### Blistering of Paint and Varnish.

BY FRANK FIELDING.

Many are the opinions expressed regarding blistering, and although some very sensible theories are advanced, we are inclined to believe that the bottom of the subject has never been reached. We hold an opinion of the cause of this trouble, and it may be that this opinion has been forestalled by others, but as we have never seen the points laid down in print, we present them here.

Blistering of a varnished surface after the varnish has had proper time to harden is due to the evaporation of moisture which lies confined under the shell of varnish. This evaporation is caused by heat, and it is seldom, if ever, a blister will rise upon a varnished surface without the temperature is raised to an extreme degree, near to that which the varnish received in its manufacture.

The accumulation of moisture under the varnish may be brought about in several ways; the most particular one being in the closing in of moisture in the rough stuff. During the rubbing of the rough stuff the water used is partly absorbed, and unless due care is taken to give ample time for "drying out" before the application of subsequent coats, a great amount of moisture will be confined within the cells of the rough stuff.

Boiled oil contains moisture, as of water, and in cases where steam is used to express the oil from the seed this percentage is increased. Turpentine, an extremely volatile liquid, also forms an evaporating substance which is rendered active by a slight heat, and in its haste to reach the air it disturbs the outer surface, either lifting an elastic coating into bubbles or blisters, or bursting open a hard and inelastic one into cracks.

The primary cause, then, of blistering is moisture either in the form of wet moisture or of evaporating liquids, such as turpentine. The wood may be unseasoned, or it may have been wetted in the course of preparation, such as steaming to bend, etc. The rough stuff water may have been applied before the evaporation of liquids had taken place, either of which would bring about disastrous results.

"Dry blistering" is simply the hasty absorption of the liquids from outer coats by putty or paint which is expressly porous, depriving the coating of the requisite amount of binding and adhesiveness.

To prevent blistering, close up every lurking place for moisture by the use of the A B C system of painting, which will be found to be as easily done as repeating the alphabet. Be careful to have each coat dry before applying another, and you may laugh at the trouble which some of the craft call "deviltries".

*Coach Painter.*

### Deadening Noises of Workshops.

To those who carry on any operations requiring much hammering or pounding, the following hints from the *Workshop*

*Companion* may prove useful: — 1. Rubber cushions under the legs of the work bench. *Chambers's Journal* describes a factory where the hammering of fifty coppersmiths was scarcely audible in the room below, their benches having under each leg a rubber cushion. 2. Kegs of sand or sawdust applied in the same way. A few inches of sand or sawdust is first poured into each keg; on this is laid a board or block upon which the leg rests, and around the leg and block is poured fine dry sand or sawdust. Not only all noise, but all vibration and shock are prevented; and an ordinary anvil so mounted may be used in a dwelling-house without annoyance to any person. *The Furniture Gazette.*

### The electric light in factories.

Although the electric light has not yet come into use for domestic purposes, its success for lighting large spaces such as depôts and factories seems assured beyond question. The Riverside Worsted Mills, at Providence, Rhode Island, have used the light for over a year, with an estimated economy of \$ 14,000 over gas light. Five dynamo-electric machines with 80 lamps are employed, lighting all of the principal rooms. An extract from the report of the treasurer of the company is as follows: They could not have a severer test than we give them, as our mill runs night and day the year through, and we have not had a moment's delay from, or a dollar's worth of repairs on, any of the machines or lamps. The light is all we expected. It is strong and steady, clear and white. It is universally liked by both overseers and helps—so much so that we doubt if we could get along now with the helps if we were to return to the old gas lighting. Certainly we should not get so good work, nor so much of it. We use porcelain globes pretty generally throughout the mill, and we have less complaint of trouble to the eyes than we used to have with gas. The air of the rooms, too, shows a marked difference. In our weaving-room, with its 250 gas-lights, the air became almost unbearable after midnight in summer, and the faded appearance of the men showed how they felt it. With the electric light there is no such trouble, as the air at night is as good as in the daytime, and noticeably cooler. Owing to some changes preparatory to setting up new machinery, all our 80 lamps are not at this moment doing full service; but by actual count we have 71 lamps permanently placed, and these displace 578 gas-burners. That is, there are 578 gas-burners already placed that would be lighted were the electric lights stopped. Estimating these burners as 6 feet an hour, we have 3468 feet of gas at \$ 2 per 1000 feet, equal to \$ 6.93. The total cost per hour of 71 lamps is \$ 2.20, making a saving of \$ 4.73 per hour; and this saving for the 3000 hours the machines run in the year amounts to \$ 14,190, and nearly pays for the machines. *American Manufacturer.*